

Claims:

1. A shaving cutter (111) comprising a skin-engaging surface (116) having both a convex elliptic region (116a) and
5 a hyperbolic region (116b).
2. A shaving cutter according to claim 1 wherein the elliptic region merges smoothly with the hyperbolic region.
- 10 3. A shaving cutter according to claim 2 wherein the elliptic region merges with the hyperbolic region along a parabolic transition region (117).
4. A shaving cutter according to any one of the preceding
15 claims wherein at least one of the surface regions is perforate.
5. A shaving cutter according to any one of the preceding claims wherein a concave parabolic skirt region (114) depends
20 from the hyperbolic region.
6. A shaving cutter according to any one of the preceding claims wherein a convex parabolic skirt region (115) depends from the elliptic region.
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7. A shaving cutter according to claims 5 and 6 wherein the concave and convex skirt regions are concentric.
8. A shaving cutter according to any one of claims 5 to 7
30 wherein the or each skirt region is perforate.

9. A shaving cutter according to claim 8 wherein the or at least one skirt region is provided with elongate hair-capture slots.
- 5 10. A shaving cutter according to any one of the preceding claims further comprising a pair of convex elliptic end cheeks (112, 113) each merging smoothly with the elliptic and hyperbolic regions.
- 10 11. A shaving cutter comprising a skin-engaging surface having a convex first region which is parabolic or elliptic, a second region which is parabolic or hyperbolic and first and second convex elliptic end zones merging smoothly with the first and second regions.
- 15 12. A shaving cutter according to claim 11 or 12 wherein a skirt region depends from at least one of the first and second regions.
- 20 13. A shaving cutter according to claim 11 wherein at least one of the surface regions is perforate.
14. A shaving cutter according to claim 13 wherein the or at least one skirt region is perforate.
- 25 15. A shaving cutter according to claim 14 wherein the or each perforate skirt region has elongate hair-capture slots.
16. A shaving cutter comprising:
- 30 first curved skin-engaging surface region;
a second curved skin-engaging surface region; and
the second surface region merging seamlessly with the first surface region;

there existing a cross-sectional plane intersecting the first surface region along a first curved line on which the first surface region is concave with a first radius of curvature and intersecting the second surface region along a second curved line on which the second surface region is convex with a second radius of curvature larger than the first radius of curvature.

17. A shaving cutter comprising:

10 a first surface region having two orthogonal planes of curvature, and being concave in one plane;

a second surface region having two orthogonal planes of curvature, and being convex in both planes; and

the first surface region merging seamlessly with the second surface region.

18. A shaving system comprising an outer shaving cutter according to any one of the preceding claims; an undercutter conforming with the outer cutter and mounted for oscillatory movement beneath the outer cutter; and drive means for imparting said oscillatory movement to the undercutter.

19. A shaving system according to claim 18 wherein the outer cutter has an arcuate longitudinal centre line and the undercutter is correspondingly arcuate.

20. A shaving system according to claim 18 or 19 comprising at least first and second shaving units, at least one of which includes an outer cutter according to any one of claims 1 to 17 and a corresponding undercutter.

21. A shaving system according to claim 20 wherein at least two of the shaving units include an outer cutter according to any one of claims 1 to 17 and a corresponding undercutter.

5 22. A method of producing an electroformed shaving cutter in which:

a) a coating of electrophoretic photoresist is applied to a substrate having an electrically conductive surface by passing an electrical current therethrough, the surface
10 having non-zero Gaussian curvature;

b) the photoresist is exposed to a suitable source of electromagnetic radiation through a mask whose shape conforms closely to that of the substrate;

c) the photoresist is developed; and

15 d) a metallic layer is electrodeposited onto the conductive surface regions of the substrate not coated with the photoresist.

23. A method according to claim 22, in which the substrate
20 is of stainless steel.

24. A method according to claim 22 wherein the substrate is a body of plastics material having an electrically conductive surface coating.

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25. A method according to any one of claims 22 to 24 in which the mask is provided with a plurality of non-elongate apertures.

30 26. A method according to claim 25 wherein the apertures each have a diameter in the range 600 to 800 microns.

27. A method according to any one of claims 22 to 26, wherein the mask is provided with a plurality of elongate apertures.

5 28. A method according to claim 27 wherein the apertures have a length of 400 to 2200 μm and a width of 400 to 800 μm .

29. A method according to any one of claims 22 to 28 in which the metallic layer has a varying relief pattern.

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30. A method according to any one of claims 22 to 29, in which the mask is of ductile metal, e.g. copper.

15 31. A method according to any one of claims 22 to 30 in which the metallic layer is separated from the substrate by peeling or by dissolution of the substrate.

32. A method of manufacturing a three-dimensional electroforming mask for use in the method of any one of
20 claims 22 to 31 comprising the step of forming an electrically conductive surface pattern by etching using a laser.

33. A method according to claim 32 in which the electrically
25 conductive surface pattern is produced by coating an electrically conductive substrate with photoresist and selectively removing portions of the photoresist using the laser.

30 34. A method according to claim 32 in which the electrically conductive surface pattern is produced by coating an electrically insulating substrate with a conductive layer,

and selectively removing portions of the conductive layer using the laser.

35. A method according to claim 34 wherein the coating is
5 applied by electroforming to a desired thickness.

36. A method according to claim 34 or 35 in which the etching step is followed by a thickening step using electroforming.

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37. A method according to claim 34, 35 or 36 in which the coating is removed from the substrate.